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論文名稱：泥岩裸露地成因之探討

英文論文名稱：A Study of Factors on the Bare Land at Mudstone

【中文摘要】

西南部泥岩的裸露面積正逐年擴展增加，裸露泥岩地區之植生復育工作已刻不容緩。本研究係以深坑子溪與二仁溪主流匯流處以東之集水區為主要研究對象，篩選泥岩地區植生復育之影響因子，運用遙感探測與地理資訊系統技術，建立各因子屬性資料庫，再應用多變量統計分析，探討泥岩地區崩塌裸露之主因。由逐步迴歸分析結果顯示，所篩選之地形與土壤因子與植生現況皆有顯著影響。判別分析結果顯示，裸露地與果園作物區可由地形與土壤因子正確判識，而林地則無法由地形與土壤因子判別，若只討論坡度大於 30%的陡坡地，則裸露地的判別率可提高至 67.8%。由地形及土壤因子所判釋之裸露地與植被現況比較，可用來估算研究區植生復育因難等級；若將研究區之裸露地依地形與土壤特性予以分類，可歸納成:A.較高海拔-陡坡-東南向-淺層土壤-粉質壤土;B.較低海拔-緩坡-南向-淺層土壤-粉土;C.中海拔-陡坡-南向-淺層土壤-粉土等三類，其中以 B 類裸露地所佔面積最大(78%)，可知本研究區裸露地之成因主要是人為墾耕及土壤結構不

良所致。

【英文摘要】

There is an urgent need to restore the bare lands at the mudstone areas. The purpose of this study is to screen the factors affecting vegetation in the mudstone distributed watershed with the outlet located at the joint of San-ken-chi river and Erlan river. Discriminant analysis shows forest land at the watershed can not be directly recognized accurately from the topographic and soil factors, which do affect the delineation of bare and tillage lands. The interpretation rate of bare land can be increased to 67.8% by using the study area with slope greater than 30%. Comparing current vegetation status with the vegetation map derived from discriminant analysis, the difficulty areas of revegetation can be estimated. According to the factors of topography and soil, the bare lands of study area can be classified as : (1). Group A with the characteristics of high elevation, extremely steep slope, south-east aspect, extremely shallow soil depth, and loamy silt soil texture, (2). Group B with the characteristics of low elevation, gentle slope, south aspect, shallow soil depth, and silt soil texture, (3). Group C with the characteristics of middle elevation, steep slope, south-west aspect, shallow soil depth, and silt soil texture. Because group B occupied 78% of bare lands in the watershed, cultivation, fine soil texture, and shallow soil depth are the major factors that contributed to the bare lands in this watershed.